

## Correspondence

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TO THE EDITOR, *Genitourinary Medicine*

### Penicillinase producing gonococci: a spent force?

Sir,

The experience of Ison *et al* of penicillinase producing *Neisseria gonorrhoeae* (PPNG) being a spent force in London<sup>1</sup> is echoed in Leicester, where we have seen a dramatic fall in cases since 1983. In that year we saw a total of 68 new patients infected with PPNG strains out of a total of 555 cases of gonorrhoea, and during March 1983 the proportion of gonorrhoea caused by PPNG strains was 31%. The initial epidemic was quelled by careful contact tracing and appropriate chemotherapy with spectinomycin, ampicillin, probenecid, or augmentin.

Since then the number of PPNG strains has decreased, so that in 1986 we saw only five cases, and so far in 1987 there have been three cases. We feel that despite the valiant effort on the part of the gonococcus to adapt itself to a changing world, it too will soon be joining the treponeme in "the second division" of genitourinary medicine.

Yours faithfully,

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### Reference

- 1 Ison CA, Gedney J, Harris JRW, Easmon CSF. Penicillinase producing gonococci: a spent force? *Genitourin Med* 1986;62:302-7.

TO THE EDITOR, *Genitourinary Medicine*

### Oropharyngeal carriage of *Neisseria gonorrhoeae* and its response to treatment in patients with anogenital infection

Sir,

The prevalence of pharyngeal gonorrhoea in the United Kingdom remains unclear. In some areas, however, prevalences of 10% in women, 4.2% in heterosexual men, and 27.3% in homosexual men have been reported.<sup>1,2</sup> Several studies have shown that stan-

dard single dose regimens used to treat genital gonorrhoea are ineffective against pharyngeal infection.<sup>3,4</sup> The present study was undertaken to clarify the prevalence of pharyngeal gonorrhoea in patients in Liverpool with anogenital gonorrhoea, and to assess the role of oral sexual practices in the pathogenesis of this condition.

Throat swabs were obtained from 338 women, 202 heterosexual men, and 18 homosexual men with anogenital gonorrhoea. *Neisseria gonorrhoeae* was isolated from 16% (55/338) of women, 6% (12/202) of heterosexual men, and 28% (5/18) homosexual men. Of those who practised oral sex, the pharyngeal prevalence was 37% (49/134) in women, 14% (10/71) in heterosexual men, and 27% (4/15) in homosexual men compared with 3% (6/204) in women ( $p < 0.001$ ), 2% (2/131) in heterosexual men ( $p < 0.001$ ), and 33% (6/18) in homosexual men ( $p > 0.50$ ) who did not practise oral sex.

We did not find any significant difference in sensitivity to antibiotics between pharyngeal and anogenital isolates. The minimum inhibitory concentration (MIC) of penicillin was  $< 0.125$  mg/l in 86% (62/72) isolates, and the MICs of oxytetracycline, spectinomycin, and erythromycin were  $< 2$  mg/l,  $< 20$  mg/l, and  $< 1$  mg/l respectively. None of the pharyngeal isolates were  $\beta$  lactamase producing strains.

The differences in response to treatment between men and women were small and not significant. Of 62 patients who received single dose regimens, eight (13%) failed to return for follow up. Of those who were treated with single dose regimens, the pharyngeal infection persisted in 39% (11/28) of patients treated with spectinomycin 2 g, 40% (8/20) of those treated with procaine penicillin 1.2 MIU and probenecid 1 g, and 25% (1/4) of those treated with amoxycillin 3 g plus probenecid 1 g.

Patients in whom single dose regimens had failed were treated with oxytetracycline 250-500 mg four times a day for seven days (12 patients), co-trimoxazole two tablets three times daily for seven days (four patients), or erythromycin 250-500 mg four times a day for seven days (three patients). The failure rates were 17% (2/12) with oxytetracycline and 25% (1/4) with co-trimoxazole regimens, whereas the pharyngeal infection

persisted in all three patients treated with erythromycin.

In one patient the pharyngeal infection persisted despite five successive courses of treatment, with spectinomycin 2 g, cefotaxime 1 g and 2 g plus probenecid 1 g, procaine penicillin 4.8 MIU plus probenecid 1 g, and oxytetracycline 500 mg four times a day for seven days. The infection was finally treated successfully with co-trimoxazole four tablets twice daily for four days.

The reasons for the differences in response to treatment between pharyngeal and anogenital sites are not clear. The role of oral microbial flora in the bioavailability of antibiotics, as well as the tissue and salivary concentrations of antibacterial agents achieved after single dose treatment require further evaluation.

We conclude that orogenital sexual practices play an important part in the pathogenesis of pharyngeal gonorrhoea. Throat swabs should therefore be taken from all patients suspected of having gonorrhoea, including heterosexuals who practise oral sex. All patients with pharyngeal gonorrhoea should be followed up to ensure cure, as the current standard single dose treatment regimens used to treat anogenital infections may fail to eradicate pharyngeal gonorrhoea. Our high default rate (13%) after initial treatment emphasises the need to find a suitable single dose regimen that will eliminate *N gonorrhoeae* from the oropharynx as well as anogenital sites.

Yours faithfully,

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### References

- 1 Kinghorn GR, Rashid S. Prevalence of rectal and pharyngeal infection in women with gonorrhoea in Sheffield. *Genitourin Med* 1979;55:408-10.
- 2 Sulaiman MZC, Bates CM, Bittiner JB, Dixon CA, Slack RCB. Response of pharyngeal gonorrhoea to single dose penicillin treatment. *Genitourin Med* 1987;63:92-4.
- 3 Bro-Jorgensen A, Jensen T. Gonococcal pharyngeal infection. Report of 110 cases.

*British Journal of Venereal Diseases*  
1973;49:491-9.

- 4 Di Caprio JM, Reynolds J, Frank G, Carbone J, Nishimura R. Ampicillin therapy for pharyngeal gonorrhea. *JAMA* 1987;259:1131-3.

TO THE EDITOR, *Genitourinary Medicine*

#### Assessment of new enzyme immunoassay to detect herpes simplex virus antigen

Sir,  
We report our assessment of a new enzyme immunoassay to detect herpes simplex virus (HSV), the IDEIA HSV test (Boots-Celltech Diagnostics, Slough, Berkshire, UK), compared with the results obtained with a culture amplified enzyme immunoassay (CAEIA). The CAEIA has been shown to be reliable for detecting<sup>1,2</sup> and typing<sup>3,4</sup> HSV.

Clinically suspect lesions were rubbed with a cotton tipped swab, which was immediately inoculated into virus transport medium (VTM). On receipt, the samples were inoculated into Vero tissue culture tubes and stored at -20°C until tested by the IDEIA. Results of the IDEIA were reported as positive, negative, or inconclusive, according to the manufacturer's instructions.

A 0.5 ml volume of vortexed VTM was inoculated into Vero tissue culture tubes and incubated for seven days at 37°C, after which the tubes were vortexed for 15 seconds and frozen at -20°C to lyse the culture cells. Next day the samples were thawed at room temperature and enzyme immunoassay performed on the lysates according to the method of Smith *et al.*<sup>3</sup> A Biotek EL-310 microplate reader (Biotek Instruments, Burlington, USA) was used to measure the optical densities of the microwells.

We tested 65 samples for the presence of HSV by CAEIA and IDEIA, and the table shows the results of these assays. All samples positive by CAEIA were also positive for cytopathic effect, whereas those negative by CAEIA had negative cytopathic effect.

The sensitivity of the new assay was comparable with that of other commercial assays for detecting HSV.<sup>2,3</sup> When the IDEIA was used in conjunction with the CAEIA, we could report positive results within two days after collecting specimens in 85% of cases, and could confirm them by culture within a further seven days. False positive and false negative IDEIA results were probably due to the presence of non-viable HSV or low levels of HSV antigen. With reduction of culture time for IDEIA positive samples, confirmation and typing can be completed within five days after specimen collection. IDEIA negative samples need to be cultured for seven days to ensure growth of HSV from specimens with low antigen levels. Saving

Table Results of CAEIA and IDEIA assays for HSV in 65 specimens

CAEIA result	IDEIA result		
	Positive	Borderline	Negative
Positive	35	2	6
Negative	1	2	19

time in notifying positive results is relevant for the administration of specific antiherpetic treatment and for women in the last weeks of pregnancy.

The results obtained show that the IDEIA compares well with the CAEIA and, when performed with the CAEIA, offers rapid and reliable detection and typing of HSV from clinical samples.

Yours faithfully,  
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#### References

- 1 Perez TR, Juchau SV, Alvarez R. Detection of herpes simplex virus with primary rabbit kidney and an HSV antigen ELISA. *Laboratory Medicine* 1986;17:535-6.
- 2 Warford AL, Levy RA, Rekrut KA. Evaluation of a commercial enzyme-linked immunosorbent assay for detection of herpes simplex virus antigen. *J Clin Microbiol* 1984;20:490-3.
- 3 Smith KJ, Ashley CR, Darille JM, Harbour J, Roome APCH. Comparison of a commercial ELISA system with restriction endonuclease analysis for typing herpes simplex virus. *J Clin Pathol* 1984;37:937-41.
- 4 Nerurkar JS, Miller NR, Namba M, *et al.* Typing of herpes simplex virus by capture biotin-streptavidin enzyme-linked immunosorbent assay and comparison with restriction endonuclease analysis and immunofluorescent method using monoclonal antibodies. *J Clin Microbiol* 1987;25:128-31.

TO THE EDITOR, *Genitourinary Medicine*

#### Rotavirus diarrhoea in patient with antibody to human immunodeficiency virus (HIV)

Sir,  
Diarrhoea caused by rotavirus has been well described in the elderly and in outbreaks, but has only occasionally been described in healthy young adults.<sup>1</sup> We have recently seen a case of diarrhoea caused by rotavirus in a homosexual patient known to be HIV antibody positive.

An insulin dependent diabetic aged 29

presented with a few hours' history of diarrhoea. He had lost more than 10% of his body weight in the previous six months and had cervical and axillary lymphadenopathy. Examination, there was no evidence of autonomic neuropathy. His CD<sub>4</sub>/CD<sub>8</sub> ratio was 0.8, and his T lymphocyte CD<sub>4</sub> subset count was  $277 \times 10^9/l$ . Stool examination showed the presence of rotavirus both by enzyme linked immunosorbent assay (ELISA) and on electron microscopy. The diarrhoea resolved spontaneously after a few days, and subsequent stool examination failed to show rotavirus. Diarrhoea had started again at follow up two weeks later. Stool electron microscopy then showed coronavirus. Three months later, the patient continues to have diarrhoea, but no pathogens were detectable at the last examination.

Many pathogens have been associated with diarrhoea in patients infected with HIV. The association with rotavirus has not, to our knowledge, been reported previously. We wonder whether this is the first atypical infection in our patient, who otherwise fulfils the criteria for the diagnosis of AIDS related complex but not of AIDS.<sup>2</sup>

Yours faithfully,  
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#### References

- 1 Echeverria P, Blacklow NR, Cukor GG, Santiso V, Changchawalit S, Boonthai P. Rotavirus as a cause of severe gastroenteritis in adults. *J Clin Microbiol* 1983;18:663-7.
- 2 Adler MW. Range and natural history of infection. *Br Med J* 1987;294:1145-7.

TO THE EDITOR, *Genitourinary Medicine*

#### Monogamy is ...

Sir,  
With the advent of the acquired immune deficiency syndrome (AIDS), research into the sexual behaviour of homosexual and bisexual men has expanded. How clinicians and researchers ask questions, however, may not bear much relation to the understanding of those questions by patients or respondents.

In a recent study of sexual behaviour and use of condoms of 172 homosexually active men, our research on numbers of partners yielded the following results.<sup>1</sup> Forty one (24%) men responded affirmatively to the question, "Have you been in a monogamous relationship for the past two months (or